

U.S. Patent Application Serial No. 10/781,684
Amendment filed April 14, 2006
Reply to OA dated November 17, 2005

REMARKS:

Claims 1-16 are currently pending. Claims 1-11 are currently being considered, of which claim 1 has been amended herein. Claims 12-16 stand withdrawn from consideration.

The Examiner has indicated that claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant appreciates this indication of allowable subject matter, and respectfully requests that the Examiner hold this objection in abeyance while considering the remarks herein regarding base claim 1.

Claims 1-9 and 11 stand rejected under 35 USC 102(b) as anticipated by USP 6,498,360 (**Jain**).

Applicant respectfully traverses this rejection.

Jain fails to expressly or inherently describe the following features set forth in claim 1, as amended: "a quantum dot formed over the first semiconductor layer; a second semiconductor layer formed over the first semiconductor layer, burying the quantum dot; a dot-shaped structure formed on the surface of the second semiconductor layer at a position above the quantum dot; a gate electrode electrically connected to the dot-shaped structure; source/drain regions formed in the

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second semiconductor layer on both sides of the quantum dot; and oxide layers formed on both sides of the dot-shaped structure on the upper surface of the second semiconductor layer, wherein depletion regions are formed in regions of the first semiconductor layer, which are below the oxide layers, the depletion regions define a channel region, and the source/drain regions are connected to both ends of the channel region," in combination with the other claimed features.

Jain fails to expressly or inherently describe the following features set forth in claim 11: "forming a quantum dot over the first semiconductor layer; forming a second semiconductor layer, burying the quantum dot; forming a dot-shaped structure on the surface of the second semiconductor at a position above the quantum dot due to strains generated in the surface of the second semiconductor layer due to the presence of the quantum dot; and forming oxide layers on the upper surface of the second semiconductor layer on both side of the dot-shaped structure with the dot-shaped structure as a mark," in combination with the other claimed features.

Thus, Applicant respectfully submits that the rejection should be withdrawn.

In view of the aforementioned amendments and accompanying remarks, it is respectfully submitted that all claims currently being considered are in condition for allowance, which action, at an early date, is requested.

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If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the Applicant's undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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Enclosure: Petition for Extension of Time